

a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;

a gradient-field generating device;

a high-frequency field generating device; and

a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post members includes a plurality of segments formed in such a shape as to minimize leakage field strength from said first magnet device and said second magnet device;

A2 wherein each of said first and second plate members and said support-post members includes a plurality of segments of different shapes and said segments are combined in a pattern to match lines of magnetic induction generated by said first and second magnetic devices; and

wherein said first and second plate members are formed by a larger number of segments at positions thereon where said first and second plate members are connected to said support-post members and also in vicinities of said positions than at the other positions.

6. (amended) Magnetic resonance imaging apparatus comprising:

a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;

a gradient-field generating device;
a high-frequency field generating device; and
a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post members includes a plurality of segments formed in such a shape as to minimize leakage field strength from said first magnet device and said second magnet device;
wherein each of said first and second plate members and said support-post members includes a plurality of segments of different shapes and said segments are combined in a pattern to match lines of magnetic induction generated by said first and second magnetic devices; and
wherein said first and second plate members have different numbers of segments at different positions based on a calculated magnetic flux distribution in said yoke.

7. (amended) Magnetic resonance imaging apparatus comprising:
a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;
a gradient-field generating device;
a high-frequency field generating device; and
a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a

first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post members includes a plurality of segments formed in such a shape as to minimize leakage field strength from said first magnet device and said second magnet device;

wherein each of said first and second plate members and said support-post members includes a plurality of segments of different shapes and said segments are combined in a pattern to match lines of magnetic induction generated by said first and second magnetic devices; and

wherein said first and second plate members have segments of shapes to match a calculated magnetic flux distribution.

AR 8. (amended) Magnetic resonance imaging apparatus comprising:

a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;

a gradient-field generating device;

a high-frequency field generating device; and

a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post members includes a plurality of segments formed in such a shape as to minimize leakage field strength from said first magnet device and said second magnet device;

wherein said first and second plate members and said support-post members are constructed by stacking in two or more layers segments formed by cutting steel plate.

Please cancel claims 9-12, which stand withdrawn from consideration as being directed to a non-elected invention, without prejudice or disclaimer of the subject matter thereof and without prejudice to the right to file a divisional application directed thereto.

Please rewrite claim 14 in independent form as follows:

14. (amended) Magnetic resonance imaging apparatus comprising:

a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;

a gradient-field generating device;

a high-frequency field generating device; and

a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post members includes a plurality of segments formed in such a shape as to minimize leakage field strength from said first magnet device and said second magnet device;

wherein said shape to minimize said leakage field strength from said first and second magnet devices is a shape formed by varying a thickness of said segments

according to a flux density of said leakage field generated by said first and second magnet devices.

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Please add the following new claims:

--16. Magnetic resonance imaging apparatus according to claim 1, wherein each of said first and second plate members and said support-post members includes a plurality of segments of different shapes and said segments are combined in a pattern to match lines of magnetic induction generated by said first and second magnetic devices, said shape to minimize said leakage field strength from said first and second magnet devices is shape to match lines of magnetic induction generated by said first and second magnetic devices, and said shape to minimize said leakage field strength from said first and second magnet devices is a shape formed by varying a thickness of said segments according to a flux density of said leakage field generated by said first and second magnet devices.

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17. Magnetic resonance imaging apparatus according to claim 2, wherein said first and second plate members have different numbers of segments at different positions based on a calculated magnetic flux distribution in said yoke, and said first and second plate members have segments of shapes to match a calculated magnetic flux distribution.

18. Magnetic resonance imaging apparatus comprising:
a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;

a gradient-field generating device;

a high-frequency field generating device; and

a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post members includes a plurality of segments.

A4 19. Magnetic resonance imaging apparatus according to claim 18, wherein each of said first and second plate members and said support-post members includes a plurality of segments of different shapes.

20. Magnetic resonance imaging apparatus according to claim 18, wherein said first and second plate members and said support-post members are constructed by stacking in two or more layer segments.--

REMARKS

Applicants affirm the telephone election of invention I of claims 1-8 and 13-15 in response to a restriction requirement between invention I of claims 1-8 and 13-15 drawn to a magnetic resonance imaging apparatus and invention II - claims 9-12, drawn to a method of assembly a magnetic resonance imaging apparatus. It is noted that claims 9-12 stand withdrawn from consideration, and by the present amendment, claims 9-12 have been canceled without prejudice to the right to file a divisional application directed thereto.

The indication that claims 5-8 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, is acknowledged. Applicants note that many of the aforementioned claims depend